

What is claimed is:

1. An event control device for controlling to which application an entered event is to be delivered, comprising;

5 an event entering means for entering events,

a delivery destination determining information storing section storing delivery destination determining information indicating to which application the event is to be delivered according to the contents of the event, and

10 a delivery destination determining means for determining to which application the event is to delivered according to the delivery destination determining information stored in the delivery destination determining information storing section and according to the contents of the entered event, and for delivering the event accordingly.

15 2. An event control device of claim 1, characterized in that the delivery destination determining information comprises delivery priority degree information indicating, by the priority degrees of respective applications, to which application an event according to the contents of the event is to be delivered.

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3. An event control device of claim 1, characterized in that the event control device further comprises a delivery destination determining information changing means for acquiring information on which application is currently running and based on the acquired information changes the delivery
25 destination determining information for use in determining the delivery destination in the delivery destination determining means.

4. An event control device of claim 1, characterized in that the delivery destination determining information comprises event reception specifying information indicating whether or not an event is to be received according to the contents of the event for each application, and delivery priority information indicating preferentially to which application an event is to be delivered according to the contents of the event for each application, and that the delivery destination determining means determines a delivery destination application of the event based on the event reception specifying means and the delivery priority degree information, and delivers the event accordingly.

5. An event control device of claim 4, characterized in that the event control device further comprises an event reception specification changing means for changing the event reception specifying information according to the combination of currently running applications.

6. An event control device of claim 5, characterized in that the event reception specification changing means also carries out the process of changing the event reception specifying information according to the current running status of each application.

7. An event control device of claim 6, characterized in that part or whole of the event reception specification changing means for carrying out the process of changing the event reception specifying information according to the current running status of each application is provided on the side of each application.

8. An event control device of claim 4, characterized in that the delivery

destination determining information comprises basic delivery destination information describing applications to be basic delivery destinations for the contents of each event, and

the delivery destination determining means delivers an event to an application specified with the basic delivery destination information in the case an application to which the entered event may be delivered is not specified in the event reception specifying information.

9. An event control device of claim 4, characterized in that the event control device further comprises a delivery priority degree information changing means for acquiring information on which application is currently running and changing the delivery priority degree information according the change in the running application.

10. An event control device of claim 9, characterized in that the delivery priority degree information changing means changes the delivery priority degree information in consideration of also the current running status of each application.

11. An event control device of claim 9, characterized in that a plural number of delivery priority degree tables are stored in a delivery priority degree storing section corresponding to combinations of currently running applications and that the delivery priority degree changing means changes the priority degree by choosing corresponding delivery priority degree tables according to changes in the currently running applications.

12. An event control device of claim 1, characterized in that the delivery

destination determining information comprises delivery property information indicating the delivery property of events received by respective applications, and the delivery destination determining means determines a delivery mode in consideration of the delivery property information.

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13. An event control device of claim 12, characterized in that the delivery property indicates whether or not the event can be received also with other applications.

10 14. An event control device of claim 12, characterized in that the event control device further comprises a delivery property changing means for changing the delivery property according to the running status of each application.

15 15. An event control device of claim 1, characterized in that a plural number of events are arranged into groups, that the delivery destination determining information storing section stores the delivery destination determining information indicating to which application an event belonging to an event group is to be delivered depending on the event group, and

20 that the delivery destination determining means determines to which application the event is to be delivered according to the delivery destination determining information stored in the delivery destination determining information storing section and depending on the event group to which the entered event belongs, and delivers the event accordingly.

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16. An event control device of claim 15, characterized by comprising an

event group changing means for changing grouping of events according to the running status of each application.

17. An event control device of claim 1, characterized in

5 that a plural number of applications are arranged into event groups,
 that the delivery destination determining information storing section stores delivery destination determining information indicating to which application the event is to be delivered depending on the event, and

 that the delivery destination determining means according to the event
10 entered and on the basis of the delivery destination determining information stored in the delivery destination determining information storing section determines to which application the event is to be delivered, and delivers the event to the application belonging to the application group.

15 18. An event control device of claim 17, characterized in that the event control device further comprises an application group changing means for changing grouping of applications according the running status of respective applications.

20 19. An event control device of claim 1, characterized in

 that the respective applications control to write on their own the information on whether or not themselves are currently running to the delivery destination determining information storing section, and

 that the delivery destination determining means determines the delivery
25 destinations of events based on the information on whether or not the applications are running.

20. A receiver characterized in that the receiver comprises;

a receiving section for receiving at least contents data coming as transmitted,

a decoder section for decoding and outputting the contents data received,

5 a processing section for controlling the operation of the decoder section,

a recording section for recording and storing a program specifying the contents of the processing section, and

an event input section for receiving events entered by an operator, and that the program comprises;

10 a plural number of application programs for the process of demultiplexing multiplex data received with receiving means into contents, and

an event control program for determining to which application program an event is to be delivered and delivers accordingly according to the contents of the event entered through the event input section.

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21. A recording medium recording a program for embodying the device of claim 1 by the use of a computer.

22. An event controlling method for controlling to which application an entered event is to be delivered, characterized in that

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to which application the event is to be delivered according to the contents of the entered event is determined in advance as delivery destination determining information, and

to which application the event is to be delivered is determined and delivers
25 accordingly according to the contents of the event entered and on the basis of the delivery destination determining information.

23. An event control device capable operating a plural number of applications and capable of determining which application is to execute the event entered, characterized in that the event control device comprises;

an event executing information recording section recording event executing
5 information indicating according to the contents of the event with which application the event is to be executed, and

an event delivery means for delivering a given event at least to applications that are currently running, and that

each application that has received an event from the event delivery means
10 determines whether or not the received event is to be executed in reference to the recorded contents in the event executing information recording section.

24. An event control device of claim 23, characterized in that each application controls to write as event executing information whether or not
15 each application is running.

25. An event control device of claim 23, characterized in that each application records current running status of itself in an application operation recording section, and

20 the application that has received an event from the event delivery means determines whether or not the received event is to be executed in consideration of current running status of respective applications recorded in the application operation recording section.

25 26. A recording medium recording a program for embodying the device of claim 23 by the use of a computer.

27. A digital broadcasting system capable of changing output contents according to an event entered by an operator on the receiver side, characterized in that the receiver comprises;

a multiplexing means for creating multiplex data by multiplexing receivable event information describing events receivable on the receiver side, and

a transmitting means for transmitting the multiplex data, and that the receiver comprises;

a receiving means for receiving the multiplex data,

an event input means for receiving events entered by the operator, and

a demultiplexing means provided with an interactive demultiplexing application for carrying out the process of changing the contents to be demultiplexed on the basis of the event from the event entering means and for demultiplexing the multiplex data received with the receiving means back to contents, and that

the demultiplexing means chooses receivable events out of the events entered through the event input means on the basis of receivable event information received, and gives them to the interactive demultiplexing application.

28. A digital broadcasting method capable of changing output contents according to an event entered by an operator on the receiver side, characterized in that the transmitting side

multiplexes receivable event information describing the events receivable on the receiver side into contents and transmits them as multiplex data, and the receiving side

receives the multiplexed data, receives the event given by the operator, demultiplexes the received multiplex data into contents, and according to the

received event carries out the process of changing the demultiplexed contents,
and

chooses a receivable event as a subject of process out of given events
based on the receivable event information received.

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29. A digital transmitter for use in a digital broadcasting system capable of
changing output contents according to an event entered by an operator on the
receiver side, characterized by comprising,

10 a multiplexing means for creating multiplex data by multiplexing receivable
event information describing events receivable on the receiver side, and
a transmitting means for transmitting the multiplex data.

30. A digital transmitter of claim 29, characterized in that the multiplexing
means multiplexes also receivable event changing information for changing
15 the receivable events under predetermined conditions.

31. A digital transmitter of claim 29, characterized in that the contents are
written in a self-descriptive type of language, and the receivable event
information is described as information for defining the self-descriptive type of
20 language.

32. A digital transmitter of claim 29, characterized in that the contents are
written in a self-descriptive type of language, and the receivable event
information is described as major information of the self-descriptive type of
25 language.

33. A digital transmitter of claim 29, characterized in that the receivable

event information and the receivable event changing information are described in control data corresponding to the contents.

34. A digital receiver for use in a digital broadcasting system capable of changing output contents according to an event entered by an operator on the receiver side, characterized by comprising,

a receiving means for receiving multiplex data,

an event input means for receiving events entered by an operator, and

a demultiplexing means provided with an interactive demultiplexing application for demultiplexing the multiplex data received with the receiving means back to contents and for carrying out the process of changing the contents to be demultiplexed according to the event from the event input means, and that

the demultiplexing means choose a receivable event out of events inputted from the event input means based on the receivable event information received and gives them to the interactive demultiplexing application.

35. A digital receiver of claim 34, characterized in that the demultiplexing means changes the receivable events according to the receivable event changing information received.

36. A digital receiver of claim 34, characterized in that the interactive demultiplexing application interprets the self-descriptive language and demultiplexes contents and changes the contents, and

the demultiplexing means chooses from given events according to the receivable event information described as information for defining the self-descriptive language and gives the chosen events to the interactive

demultiplexing application.

37. A digital receiver of claim 36, characterized in that the demultiplexing means changes the receivable events according to the receivable event
5 changing information described as major information of the self-descriptive type of language.

38. A digital receiver of claim 34, characterized in that the demultiplexing means chooses from given events according to the receivable event
10 information described in control data corresponding to the contents and gives them to the interactive demultiplexing application.

39. A digital receiver of claim 38, characterized in that the demultiplexing means changes the receivable events according to the receivable event
15 changing information described in the control data.

40. A receiver characterized in that
the receiver comprises,
a receiving section for receiving at least contents data and receivable event
20 information coming as transmitted,
a decoder section for decoding the received contents data and outputting them,
a processing section for controlling the operation of the decoder section;
a recording section for recording the program specifying the process
25 contents of the processing section, and
an event input section for receiving events entered by an operator, and that
the program comprises,

an interactive demultiplexing program for demultiplexing the multiplex data received with the receiving means into contents and for carrying out the process of changing the contents to be demultiplexed according to the event coming from the event input means, and

5 an event control program for choosing receivable events out of events inputted from the event input section according to the receivable event information received and giving them to the interactive demultiplexing program.

10 41. A receiver for use in a digital broadcasting system, characterized in that the receiver

receives multiplex data, demultiplexes the received multiplex data according to the operation of an operator, and displays the demultiplexed data,

15 changes a program through a communication line or by broadcast reception according to the operation of the operator, or changes the program by replacing a recording medium recording the program, and

carries out different display processes before and after the change in the program responsive to the same operation by the operator.

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42. A recording medium recording the program for embodying the receiver of claim 34 by the use of a computer.

43. A carrier wave for carrying digital data that can be processed with
25 computers, characterized in that the carrier wave having a configuration in which receivable event information describing the events receivable on the receiver side and contents data are multiplexed.

44. A digital reception method characterized in that

a process is carried out to receive multiplex data, to receive events given by an operator, to demultiplex the received multiplex data into contents, and to
5 change the contents to be demultiplexed, and

receivable events are chosen as process subjects out of events given according to receivable event information received.

45. A digital transmission system provided with a transmitter and a receiver,
10 characterized in that

the transmitter comprises

a multiplexing means for creating multiplex data by multiplexing the contents of the delivery destination determining information, and

a transmitting means for transmitting the multiplex data, that

15 the receiver comprises

a receiving means for receiving multiplex data,

an event input means for receiving events entered by an operator, and

a demultiplexing means including a demultiplexing application for demultiplexing the multiplex data received with the receiving means into
20 contents, and that

the demultiplexing means determines to which application the event is to be delivered according to the contents of the event entered and according to the delivery destination determining information.

25 46. A digital transmitter for use in a digital broadcasting system, characterized in that it comprises a multiplexing means for arranging the delivery destination information contents into multiplex data, and a

transmitting means for transmitting the multiplex data.

47. A receiver for use in a digital broadcasting system, characterized in that it comprises

- 5 a receiving means for receiving multiplex data,
an event input means for receiving events entered by an operator, and
a demultiplexing means comprising a plural number of applications including a demultiplexing application for demultiplexing the multiplex data received with the receiving means into contents, and that
- 10 the demultiplexing means determines to which application the event is to be delivered according to the contents of the event entered and according to the delivery destination determining information.